# 2008 WESTERN SOUTH DAKOTA HYDROLOGY CONFERENCE
# PRELIMINARY PROGRAM

**Thursday, April 17, 2008**
**Alpine/Ponderosa Rooms**
**Rushmore Plaza Civic Center**

| | | |
|---|---|---|
| **7:00 – 7:50 a.m.** | **REGISTRATION** | |
| **7:50 – 9:20 a.m.** | **Plenary Session 1 in Alpine and Ponderosa Rooms – Science Management Issues (1.5 PDH)**<br>**Moderator – Mark Anderson**, Director of the U.S. Geological Survey South Dakota Water Science Center, Rapid City, SD | |
| 7:50 – 8:00 a.m. | Welcome, general information | **Mark Anderson** and **Daniel Driscoll**, U.S. Geological Survey |
| 8:00 – 8:40 a.m. | Reflections on the Science and Policy of Energy and Climate Change (INVITED KEYNOTE ADDRESS) | **Dr. John H. Marburger, III**, Director, Office of Science and Technology Policy, Executive Office of the President |
| 8:40 – 9:00 a.m. | Plans and progress at the Sanford Underground Lab at Homestake (INVITED KEYNOTE ADDRESS) | **Dr. Jose Alonso**, Sanford Laboratory |
| 9:00 – 9:20 a.m. | Characterization of the Precambrian aquifer at Homestake | **Larry Stetler** and **Arden Davis,** South Dakota School of Mines and Technology |
| **9:20 – 9:50 a.m.** | **REFRESHMENT BREAK** | |
| **9:50 a.m. – 12:10 p.m.** | **Concurrent Session 2A in Alpine Room – Hydrology Potpourri (2.5 PDH)**<br>**Moderator – Derric Iles**, State Geologist, South Dakota Department of Environment and Natural Resources, Geological Survey Program, Vermillion, SD | **Concurrent Session 2P in Ponderosa Room – Surface-Water Quality Issues (2.5 PDH)**<br>**Moderator – Joyce Williamson**, U.S. Geological Survey South Dakota Water Science Center |
| 9:50 – 10:10 a.m. | *Assessing septic system and municipal sewer system risks* **– Paul Nabholz**, P.E. | *An update to the watershed assessment for the lower Cheyenne River watershed* **– Cory Foreman**, RESPEC, and **Scott Kenner**, South Dakota School of Mines and Technology |
| 10:10 – 10:30 a.m. | *Characterization of effects of on-site wastewater disposal systems overlying fractured or solution-enhanced aquifers, Black Hills of South Dakota* **– Larry Putnam, Galen Hoogestraat**, U.S. Geological Survey, **J. Foster Sawyer**, South Dakota Department of Environment and Natural Resources | *Sediment source tracking of the lower Cheyenne River* **– Keshav Gnawali, Scott Kenner, Joshua Valder**, South Dakota School of Mines and Technology, and **Cory Foreman,** RESPEC |
| 10:30 – 10:50 a.m. | *Rainwater harvesting in Uganda and South Dakota* **– Thomas Fontaine**, South Dakota School of Mines and Technology, and **Mark Costello**, South Dakota Department of Environment and Natural Resources | *Water quality monitoring and BIT tool to develop pathogen TMDL for the Lower Cheyenne River watershed* **– Suresh Mynam** and **Scott Kenner**, South Dakota School of Mines and Technology |
| 10:50 – 11:10 a.m. | *Geochemical investigation of ground-water flow paths in the Madison aquifer, Wind Cave National Park, South Dakota* **– Jennifer Back**, National Park Service, and **Andrew Long**, U.S. Geological Survey | *Improving rangeland health in the Belle Fourche River watershed* **– Matthew Stoltenberg**, RESPEC |
| 11:10 – 11:30 a.m. | *Estimating mixing ratios for source waters in the Madison aquifer based on water chemistry, Wind Cave National Park, South Dakota* **– Josh Valder, Andrew Long,** U.S. Geological Survey, **Jennifer Back**, National Park Service, and **Scott Kenner**, South Dakota School of Mines and Technology | *Development of a mercury TMDL for South Dakota lakes and reservoirs* **– James Stone, Larry Stetler, Pallaoor Sundareshwar**, South Dakota School of Mines and Technology, **Steve Chipps**, U.S. Geological Survey, **Michael Penn**, University of Wisconsin-Platteville |
| 11:30 – 11:50 a.m. | *Understanding pore networks and chemical transport in karst aquifers—Spatial and temporal analyses of ground-water tracers* **– Andrew Long,** U.S. Geological Survey | *Environmental impacts associated with antimicrobial compounds Tylosin and Chlortetracycline usage within swine CAFO facilities* **– Erin Dreis, Laura Porath, James Stone**, South Dakota School of Mines and Technology, **Sharon Clay**, South Dakota State University, and **Garth Spellman**, Black Hills State University |
| 11:50 a.m. – 12:10 p.m. | *South Dakota water rights do not protect head loss* **– Perry Rahn** and **Arden Davis**, South Dakota School of Mines and Technology | *Improving information management of storm water drainage systems using GIS—Rapid City, South Dakota* **– Jenifer Sorensen** and **Ray Bettmeng**, FourFront Design |

| | | |
|---|---|---|
| **12:10 p.m. – 1:30 p.m.** | **LUNCH with Keynote Speaker in Rushmore H Room – Dr. Scott Kenner (1.0 PDH)**<br>South Dakota School of Mines and Technology<br>*Stormwater Quality Management in Rapid City* | |
| **1:30 – 3:10 p.m.** | **Concurrent Session 3A in Alpine Room – Inyan Kara/Uranium Mining (1.5 PDH)**<br>**Moderator – Dr. Arden Davis**, South Dakota School of Mines and Technology | **Concurrent Session 3P in Ponderosa Room – Flooding (1.5 PDH)**<br>**Moderator – Van Lindquist**, Administrative Manager, West Dakota Water Development District, Rapid City, South Dakota |
| 1:30 – 1:50 p.m. | *Characteristics and vulnerability of the Inyan Kara aquifer: Blackhawk quadrangle, South Dakota* **– Elizabeth Francisco, Alvis Lisenbee** and **Arden Davis**, South Dakota School of Mines and Technology | *Rainfall totals from the Hermosa flash flood of August 17, 2007* **– Meagan Holm** and **Melissa Smith**, National Weather Service |
| 1:50 – 2:10 p.m. | *In situ recovery of uranium at the Dewey Burdock project: Permitting issues, baseline results, and status* **– Mark Hollenbeck**, Powertech | *Peak flows associated with the August 17, 2007, thunderstorm near Hermosa, South Dakota* **– Daniel Driscoll** and **Joyce Williamson,** U.S. Geological Survey |
| 2:10 – 2:30 p.m. | *Inyan Kara and the case for confined conditions: Dewey-Burdock in situ uranium project in Custer and Fall River Counties, South Dakota* **– Crystal Hocking and Dan Hoyer**, RESPEC | *The Hermosa flood of August 17, 2007: Extent, effects, and comparison to FEMA flood insurance rate map* **– Alvis Lisenbee** and **Christopher Pellowski**, South Dakota School of Mines and Technology |
| 2:30 – 2:50 p.m. | *The process of in situ recovery of uranium at the Dewey-Burdock project* **– James Munro**, Powertech | *A mixed population approach for peak-flow frequency analysis for the Black Hills of western South Dakota* **– Daniel Driscoll, Steven Sando,** and **Charles Parrett**, U.S. Geological Survey |
| 2:50 – 3:10 p.m. | *Three-dimensional geologic modeling of Dewey-Burdock in situ uranium project in Fall River County, South Dakota* **– Matthew Minnick** and **Crystal Hocking**, RESPEC | *Results of a reconnaissance-level paleoflood study for the Black Hills area, South Dakota* **– Daniel Driscoll** and **Jim O'Connor**, U.S. Geological Survey |
| **3:10 – 3:35 p.m.** | **REFRESHMENT BREAK** | |
| **3:35 – 5:15 p.m.** | **Concurrent Session 4A in Alpine Room – Abandoned Uranium Mine Issues (1.5 PDH)**<br>**Moderator – Janet Carter**, U.S. Geological Survey South Dakota Water Science Center, Rapid City, SD | **Concurrent Session 4P in Ponderosa Room – Surface-Water Issues (1.5 PDH)**<br>**Moderator – Daniel Driscoll**, U.S. Geological Survey South Dakota Water Science Center, Rapid City, SD |
| 3:35 – 3:55 p.m. | *Surface water and sediment investigation concerning abandoned uranium mines within the South Cave Hills region, Harding County, South Dakota* **– Emmanuel Tuombe, Larry Stetler,** and **James Stone**, South Dakota School of Mines and Technology | *Belle Fourche irrigation district online irrigation consultant* **– Jared Oswald**, RESPEC, and **Hal Werner**, South Dakota State University |
| 3:55 – 4:15 p.m. | *Results of a groundwater pumping test near abandoned uranium mines in the North Cave Hills, South Dakota* **– Larry Stetler, Arden Davis,** and **James Stone**, South Dakota School of Mines and Technology | *Development of operational charts for unautomated irrigation* **– Jeremy Sanson** and **Scott Kenner**, South Dakota School of Mines and Technology |
| 4:15 – 4:35 p.m. | *Bacterial diversity associated with abandoned uranium mines in South Dakota* **– Gurdeep Rastogi, Rajesh Sani, Nicole Keegan, Larry Stetler,** and **Todd Menkhaus**, South Dakota School of Mines and Technology | *Hydraulic model of the Belle Fourche irrigation district north canal using EPA SWMM 5.0* **– Lacy Pomarleau** and **Scott Kenner**, South Dakota School of Mines and Technology |
| 4:35 – 4:55 p.m. | *Interactions of uranium with iron minerals and environmental bacteria* **– Rajesh Sani, Gurdeep Rastogi**, South Dakota School of Mines and Technology, **Brent Peyton**, Montana State University, **Timothy Ginn**, University of California-Davis, **Nicolas Spycher**, Lawrence Berkeley National Laboratory, and **Alice Dohnalkova**, PNNL | *Trends in streamflow in the Missouri River Basin from 1957 to 2006* **– Parker Norton** and **Mark Anderson**, U.S. Geological Survey |
| 4:55 – 5:15 p.m. | *Sorption of metals onto soil minerals near abandoned uranium mines in the South Cave Hills, Harding County, South Dakota* **– Gregory Kipp, Larry Stetler, James Stone,** and **Arden Davis**, South Dakota School of Mines and Technology | *Dean's Lake hydrology and hydraulic analysis* **– Jonathan Kusa** and **Mike Ryan**, HR Green |